What is claimed:

1. A method for preparing a native, cell-free tissue replacement comprising the steps of:

soaking the tissue replacement for at least six hours in a solution comprising one or more sulfobetaines;

washing the tissue replacement in one or more solutions of a buffered salt;

extracting the tissue replacement in a mixture of one or more sulfobetaines with an anionic surface-active detergent; and

washing the tissue replacement in one or more solutions of a buffered salt to remove the excess anionic surface-active detergent.

2. The method of claim 1, wherein the tissue replacement further comprises the step of storing in a buffered salt solution until needed.

3. The method of claim 1, wherein the sulfobetaines have hydrophilic tails of 10 to 16 carbons.

4. The method of claim 1, further comprising the step of:

adhering one or more components to the tissue replacement before storing, wherein the components are selected from the group consisting of a cell, a polymer, a bioactive agent, and combinations thereof.

5. The method of claim 4, wherein the cell is selected from the group consisting of bone, cartilage, dermal, muscular, thyroidal, parathyroidal, lymphoid, pancreatic, urinary, digestive, hepatic, biliary, vascular, nervous, reproductive and combinations thereof.

6. The method of claim 4, wherein the cells are obtained from a donor, a host, from cell culture from a donor or a host, or cell cultures of established cells, tissue cells, or transformed cell lines.

7. The method of claim 4, wherein the bioactive compound is selected from the group consisting of a drug, protein, peptide, polysaccharide, fatty acid, nucleic acid, oligonucleotide, detectable agent, organic molecules, inorganic molecules or salts and combinations thereof that include natural or synthetic analogs, derivatives, or mimetic versions of the bioactive compound for therapeutic, prophylactic and diagnostic purposes.

8. The method of claim 4, wherein the polymer is selected from the group consisting of naturally occurring, synthetically-derived, covalently crosslinkable, ionically crosslinkable, hydrophilic, and combinations thereof.

9. The method of claim 1, wherein the tissue replacement is further modified into a structure selected from the group consisting of a suture, tube, sheet, film, scaffold, valve, limb replacement, tissue transplant, and joint for delivery into the body.

10. The method of claim 1, wherein the sulfobetaine comprises SB-16.

11. The method of claim 1, wherein the anionic surface-active detergent comprises Triton X-200.

12. The method of claim 1, wherein the step of washing the tissue replacement comprises serial solutions of a buffered salt comprises three serial washes of 100 mM sodium and 50 mM phosphate for about 15 minutes each.

13. The method of claim 1, wherein the tissue replacement is harvested from mammalian cadaver.

14. The method of claim 13, wherein the tissue replacement is cleaned of fat and blood after harvesting and rinsed for several hours in deionized distilled water.

15. A native, cell-free tissue replacement made by the method of claim 1.

16. A kit for tissue replacement comprising a sterile cell-free native tissue replacement of claim 15.

17. The kit of claim 16, wherein the tissue replacement comprises a suture, tube, sheet, film, scaffold, valve, limb replacement, tissue transplant or a joint.

18. The kit of claim 17, wherein the tissue replacement further comprises a cell, a polymer, a bioactive compound or combinations thereof.

19. The kit of claim 17, further comprising a sheet of instructions for use of the tissue replacement.

20. A native tissue replacement obtained by the method comprising the steps of:

a cell-free tissue obtained from an organ of a mammal made by a process comprising:

soaking the replacement tissue in one or more sulfobetaine solutions for at least about 6 hours;

washing the tissue replacement in one or more solutions of a buffered salt to remove excess detergent;

extracting the replacement tissue in a mixture of one or more solutions of Triton X-200/SB-16 for at least about 6 hours; and

washing the tissue replacement in one or more solutions of the buffered salt to remove excess Triton X-200/SB-16.

21. The tissue replacement of claim 20, wherein the tissue is selected from the group consisting of bone, cartilage, dermal, muscular, thyroidal, parathyroidal, lymphoid, pancreatic, urinary, digestive, hepatic, biliary, vascular, nervous, reproductive and combinations thereof.

22. The tissue replacement of claim 20, further comprising the step of adhering one or more components to the tissue replacement before storing.

23. The tissue replacement of claim 22, further comprising a component selected from the group consisting of a cell, a polymer, a bioactive compound or combinations thereof.

24. The tissue replacement of claim 20, further comprising one or more components adhered to the tissue replacement, wherein the components are selected from the group consisting of a cell, a polymer, a bioactive compound, and combinations thereof.

25. The tissue replacement of claim 20, wherein the tissue replacement is stored at low temperatures until use.

26. The tissue replacement of claim 20, wherein the tissue replacement is made by the method of claim 1.

27. The tissue replacement of claim 20, wherein the tissue replacement is delivered to the body in the form of a structure selected from the group consisting of suture, tube, sheet, film, scaffold, valve, limb replacement, tissue transplant, and joint.

28. The tissue replacement of claim 20, wherein the tissue replacement is further modified into a structure selected from the group consisting of suture, tube, sheet, film, scaffold, valve, and joint for delivery into the body.

29. The tissue replacement of claim 20, further comprising one or more cells placed in the gap between prior to acellular graft implantation.

30. The tissue replacement of claim 29, wherein the one or more cells comprise Schwann cells.

31. An optimized acellular graft that supports axonal regeneration, guides the axons toward the distal nerve end and is immunologically tolerated.

32. The acellular graft of claim 31, wherein the graft comprises a nerve graft.

33. The acellular graft of claim 31, further comprising the step of adhering one or more components to the graft before storing.

34. The acellular graft of claim 31, further comprising a component selected from the group consisting of a cell, a polymer, a bioactive compound or combinations thereof.

35. The acellular graft of claim 31, wherein the graft is stored at about 4 degrees centigrade in a sterile, buffered solution until use.

36. The acellular graft of claim 31, wherein the graft is made by the method of claim 1.

37. The acellular graft of claim 31, wherein the graft is delivered to the body in the form of a structure selected from the group consisting of suture, tube, sheet, film, scaffold, valve, limb replacement, tissue transplant, and joint.

38. The acellular graft of claim 31, wherein the graft is further modified into a structure selected from the group consisting of suture, tube, sheet, film, scaffold, valve, and joint for delivery into the body.

39. The acellular graft of claim 31, further comprising one or more cells placed in the gap between prior to graft implantation.

40. The acellular graft of claim 31, wherein the graft causes a reduced T-cell mediated immune response.